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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Bogat et al.
Serial No.: 10/013,078
Filed: December 10, 2001
For: SELF-CHECKOUT TERMINAL
Group: 3627
Examiner: O'Connor, Gerald J.

Durham, North Carolina
July 2, 2007

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATION OF FACSIMILE TRANSMISSION

Sirs:

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, Fax. No. 571-273-8300 on the date set forth below

1. Appellant's Brief (16 pages).
2. Transmittal of Appellant's Brief (2 pages).

Kathy Priest
Printed name of person signing

Kathy Priest
Signature

Date: July 2, 2007

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MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
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TRANSMITTAL OF APPELLANT'S BRIEF

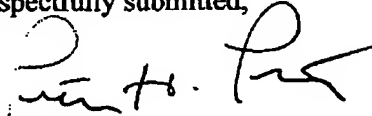
Dear Sirs:

1. Transmitted herewith is the APPEAL BRIEF in this application with respect to the Notice of Appeal filed on April 30, 2007.
2. The Applicant is other than a small entity.
3. Pursuant to 37 CFR 1.17(f) the fee for filing the Appeal Brief is \$500.00.

[x] The Commissioner is hereby authorized to charge the fee of \$500 to NCR Deposit Account No. 14-0225.

[x] The Commissioner is hereby authorized to charge any additional fees which may be required or credit any overpayment to NCR Deposit Account No. 14-0225.

Respectfully submitted,



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APPELLANT'S BRIEF

Sir:

1. The Real Party In Interest

The real party in interest is the assignee, NCR Corporation.

2. Related Appeals and Interferences

None.

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3. Status of the Claims

This is an appeal from the February 1, 2007 final rejection of claims 5-7, 9-13, 23 and 24, all of the pending claims. Claims 5-7, 9-12 and 24 were rejected under 35 U.S.C. § 102(b) based on Humble et al. U.S. Patent No. 4,676,343 (Humble). Claims 13 and 23 were rejected under 35 U.S.C. § 103(a) over Humble. Claims 1-4, 8 and 14-22 have been previously cancelled without prejudice. Pending claims 5-7, 9-13 23 and 24 are the subject of this appeal.

4. Status of Amendments

The claims stand as last amended on April 30, 2007 by an Amendment After Final filed with the Notice of Appeal. This Amendment After Final was entered as indicated by the Advisory Action mailed May 16, 2007. That amendment simply canceled claims 14-22 and 25 which were previously withdrawn from consideration.

5. Summary of Claimed Subject Matter

The present invention relates generally to improvements to self-checkout terminals and self-checkout methods. Figs. 1 and 2 and the text at page 2, line 16 et seq. provide both a summary of the invention, as well as a detailed description of the invention.

Claim 5

More particularly, claim 5 addresses "A method of detecting misappropriation of goods in a self-checkout lane in a store, the self-checkout lane having an incoming goods path and a goods collection zone, and goods being passed, in service, from the incoming goods path into the goods collection zone; the incoming goods path including a product scanner electrically coupled to a processor, and the goods collection zone including a weighing scale electrically coupled to the processor."

Fig. 1 shows a self-checkout lane 10 comprising an incoming goods path 12 and two goods collection zones 24 and 30. Page 7, lines 8-10 and 20-22. In service, goods are passed from the incoming goods path 12 into one of the other of the two goods collection zones 24 and 30 as selected by moveable diverting arm 22. See, for example, page 8, lines 5-9. The incoming goods path includes a product scanner, such as barcode scanner 14, electronically coupled to a processor. See, for example, page 2, lines 19-26; page 7, lines 10-12, and page 9, lines 13-21. The goods collection zone 24 or 30 including a weighing scale 28 or 30, respectively, is electronically coupled to the processor. Page 4, lines 1 and 2; and page 11, lines 15-19, for example.

The method of claim 5 further comprises "receiving input from the product scanner identifying goods introduced into the incoming goods path."

The barcode scanner 14 operates to scan barcodes presented on the packaging of items selected by shoppers for purchase, and the processor evaluates the total cost of the sale of goods to the customer. See, for example, page 7, lines 11 and 12; and page 9, lines 9-15, for example.

The method of claim 5 also comprises "controlling one or more barriers at least partially surrounding the goods collection zone so as to restrict customer access to goods collecting in the goods collection zone."

As seen in Fig. 2, a plurality of retractable barriers 76, 77 and 78 at least partially surrounds a goods collecting zone 72 so as to restrict customer access to goods collecting in the goods collection zone. Page 12, lines 6-23, for example. Once payment of the goods has been made, the barriers 76, 77 and 78 are withdrawn under the control of the processor thereby enabling the customer to collect the goods. Page 12, lines 24-26.

The method of claim 5 further comprises “calculating, by referring to a database of product weights, a total weight value representative of the total weight of the goods introduced into the incoming goods path.”

The processor is provided with access to a database containing the weights of the articles on sale. Linking the database, together with the weights of any loose items, for example, the total weight is calculated. See, for example, page 10, line 25; and page 11, line 14.

The method of claim 5 also comprises “once all the goods being checked out by a particular customer have passed onto the weighing scale, weighing the goods collectively at the goods collection zone by the weighing scale and producing a total weight signal for all the goods.”

Once all the goods being checked out by a particular customer have passed through onto the security weighing scale 28 (or 34), the processor is configured to obtain a weight measurement from the security scale 28 of the total weight of the goods received in the collection zone 24. Page 11, lines 15-19, for example.

The method of claim 5 further comprises “receiving from the weighing scale the total weight signal.”

As noted above, the processor obtains the total weight signal of the goods collectively. Page 11, lines 17-19, for example.

The method of claim 5 also comprises “comparing the total weight value of the goods introduced into the incoming goods path with the total weight of the goods collected at the goods collection zone and calculating a discrepancy between said weights.”

The processor compares the total weight of goods received into the collection zone 24 with the total weight of goods introduced to the incoming goods path 12. See, for example, page 11, lines 19-21.

The method of claim 5 further comprises "if the calculated discrepancy exceeds a predetermined value, inhibiting conclusion of a transaction for purchase of goods introduced into the incoming goods path and collected in the goods collection zone and continuing to control the one or more barriers at least partially surrounding the goods collection zone so as to restrict access until the discrepancy is resolved and the transaction is concluded."

The discrepancy, if any, is calculated. See, for example, page 6, lines 5-8. If the discrepancy exceeds a predetermined value, store personnel may be notified or an alarm may be operated. See, for example, page 6, lines 15-17; page 11, lines 20-24. As noted above, retractable barriers 76, 77 and 78 prevent customers from accessing the goods until payment has been successfully completed. Page 12, lines 17-23, for example.

6. Grounds of Rejection to be Reviewed on Appeal

Claims 5-7, 9-12 and 14 were rejected under 35 U.S.C. § 102(b) based on Humble.

Claims 13 and 23 were rejected under 35 U.S.C. § 103(a) over Humble.

7. Argument

The final rejection under 35 U.S.C. § 102(b) did not follow M.P.E.P. § 706.02 which states:

The distinction between rejections based on 35 U.S.C. § 102 and those based on 35 U.S.C. § 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. In other words for anticipation under 35 U.S.C. § 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. M.P.E.P. § 706.02 at p. 700-23.

The final rejection under 35 U.S.C. § 103 did not follow M.P.E.P. § 706.02(j) which states:

After indicating that the rejection is under 35 U.S.C. 103, the Examiner should set forth...the difference or differences in the claim over the applied reference,...the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and ... an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

As will be illustrated below, the claims of the present invention are not obvious in view of the references relied upon by the Examiner.

A. Rejection of claims 5-7, 9-12 and 24 under 35 U.S.C. § 102(b)

Claims 5-7, 9-12 and 24

These claims were rejected under 35 U.S.C. § 102(b) based on Humble. Humble does not support the Official Action's reading of it and the rejections based thereupon should be reversed. While Humble shows a collection zone, its bagging area 14, the Official Action chooses to mischaracterize Humble's tunnel or secured zone 15 as a "goods collection zone". Cf., Humble col. 4, line 29 and col. 4, line 68 – col. 5, line 2. The reason for disregarding Humble's collection area, bagging area 14, is apparent, and that reason is because there is no scale in Humble's bagging area 14. One embodiment of the present invention claimed by the present claims addresses a security arrangement as described at page 11, lines 15-19 in which "Once all the goods being checked out by a particular customer have passed through onto the security weigh scale 28 (or 34), the processor is configured to obtain a weight measurement from the security scale 28 of the total weight of the goods received in the collection zone 24."

Humble does not teach and does not make obvious such an arrangement. To the contrary, Humble's weighing scale 43 is located under his entry conveyor 12. Humble, col. 5, lines 62-64. Humble specifically teaches that the customer passes each item, one by one, UPC

code down over reader 10 and deposits the item on entry conveyor 12. Humble, col. 4, lines 65-67. The items are transported by conveyors through secured zone 15. Humble, col. 4, line 68-col. 5, line 2. It appears from Humble Fig. 2 that entry conveyor 12 ends beyond light curtain 31 where exit conveyor 13 begins. Humble col. 4, line 28 introduces "outfeed or exit conveyor 13" and col. 5, lines 43-48 indicate an exit sentry 34 is located at the junction between entry conveyor 12 and exit conveyor 13 within the secured zone.

As seen in Humble's Fig. 1, goods may reach bagging area 14 while the customer is still scanning items and placing them on the entry conveyor 12. Thus, it is not inherent that scale 43 weighs all of the customer's items collectively. Humble's brief discussion of its weight measurement and weigh routine is found at col. 5, lines 62-68; col. 6, lines 21-25, and col. 9, lines 24-41. If the measured article weight is not within the target, the conveyor is reversed. This operation appears to relate to determining if a single article has the proper weight. In any case, it does not teach the claimed approach of the claims presently on appeal.

Claim 24

Claim 24 specifically recites "operating a diverter to direct goods of a second customer to a second goods collection zone." In rejecting this claim, the final Official Action refers solely to Fig. 11 of Humble. Humble's Fig. 11, however, is simply a flow chart describing a process in which the conveyor is reversed in step 246 if a measured article's shape is not within a target. By reversing the conveyor, the article is returned to the original or first customer who passed the item over reader 10 and deposited the item on the entry conveyor 12 in the first place, as described, for example, at col. 4, lines 65-67 of Humble. By contrast, in the embodiment of Fig. 1 of the present invention, a first customer's items can be diverted to first collection zone 28 by diverter arm 22 while a second customer's items can be diverted to second collection zone 34.

Humble has no apparent teaching of particular relevance to claim 24.

B. Rejection of Claims 13 and 23 under 35 U.S.C. § 103(a)

This art rejection is not supported by Humble. 35 U.S.C. § 103 which governs obviousness indicates that “differences between the subject matter sought to be patented and the prior art” are to be assessed based upon “the subject matter as a whole”. Analyzing the entirety of each claim, the rejections under 35 U.S.C. § 103 are not supported by the relied upon art as addressed further below. Only after an analysis of the individual references has been made can it then be considered whether it is fair to combine teachings. However, as addressed further below, fairness requires an analysis of failure of others, the lack of recognition of the problem, and must avoid the improper hindsight reconstruction of the present invention. Such an analysis should consider whether the modifications are actually suggested by the references rather than assuming they are obvious. The 35 U.S.C. § 103 rejection made here pick and choose elements from two separate references, neither of which present any motivation for making the suggested combination. This approach constitutes impermissible hindsight and must be avoided. As required by 35 U.S.C. § 103, claims must be considered as a whole. When so considered, claims 13 and 23 are not obvious.

Claims 13 and 23 were rejected under 35 U.S.C. § 103(a) based solely on Humble. Claim 13 claims “automatically retracting the one or more barriers at least partially surrounding the goods collection zone when the calculated discrepancy is less than the predetermined value and payment for the collected goods has been made.” Claim 23 claims “wherein if the calculated discrepancy is less than the predetermined value, the transaction for purchase of goods introduced into the incoming goods path is concluded; and the method further comprises controlling the one or more barriers to allow customer access to the goods collection zone to bag

the goods.” Again, the final Official Action makes a forced interpretation of Humble that is inconsistent with Humble’s own disclosure and does not meet and does not make obvious these claimed methods. Humble shows control gates 17, col. 5, line 9 and Fig.1, for example, which apparently open once a customer has received a receipt to allow him or her to proceed to the bagging area 14. Upon bagging the items, the customer then proceeds to cashier 21 to complete the transaction. Humble, col. 5, lines 7-11. This operation of Humble clearly does not meet and does not make obvious claims 13 and 23.

The final Official Action suggests “it would have been obvious to one of ordinary skill in the art, at the time of the invention to have modified the method of Humble et al. so as to retract/control the barrier rather than convey out the goods, and to collect payment before giving access to the goods for bagging rather than after, simply as a matter of design choice, since each change would comprise merely a reversal of parts, such as could be performed readily and easily by any person of ordinary skill in the art....” This analysis is traversed as factually incorrect.

Humble does not show “one or more barriers partially surrounding the goods” which are automatically retracted “when the calculated discrepancy is less than the predetermined value and payment for the collected goods have been made” (emphasis added) as claimed in claim 13.

Claim 13 addresses “self-checkout” and placing Humble’s cashier 21 in position to receive payment before rather than after appears to turn Humble into a cashier based checkout system instead of “self-checkout.” Even assuming arguendo, such a change is not inconsistent with Humble’s teaching, Humble’s tunnel or secure zone 15 does not teach and does not make obvious retractable barriers as presently claimed. There is absolutely no legally or factually supported basis for modifying Humble in the manner suggested by the final Official Action.

C. The Examiner's Findings of Anticipation and Obviousness are Also Contrary to Law of the Federal Circuit

As shown above, the invention claimed is not taught and is not suggested by the sole relied upon piece of prior art. The reference cited by the Examiner, if anything, teaches away from the present invention. It is only in hindsight, after seeing the claimed invention, that the Examiner can suggest modifying the reference as the Examiner has done. This approach is improper under the law of the Federal Circuit. "[T]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." In re Laskowski, 871 F.2d 115, 117, 10 U.S.P.Q. 2d 1397, 1398 (Fed. Cir. 1989), quoting In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). No such suggestion is found here.

In addition, the Examiner does not appear to have considered where the reference diverges and teaches away from the claimed invention. Akzo N.V. v. International Trade Commission, 808 F.2d 1471, 1481, 1 U.S.P.Q. 2d 1241, 1246 (Fed. Cir. 1986), cert. den., 107 S.Ct. 2490, 482 U.S. 909, 107 S.Ct. 2490 (1987); and W.L. Gore Associates, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983); nor has the Examiner read the claims as a whole, as required by statute. 35 U.S.C. §103. See also, Smithkline Diagnostics Inc. v. Helena Laboratories Corp., 859 F.2d 878, 885, 8 U.S.P.Q. 2d 1468, 1475 (Fed. Cir. 1988); and Interconnect Planning Corp., 774 F.2d at 1143, 227 U.S.P.Q. at 551.

In In re Laskowski, 871 F.2d 115, 10 U.S.P.Q. 2d 1397, the Federal Circuit reversed an obviousness rejection of the claims in an application for a bandsaw. The claimed bandsaw used a pulley type wheel loosely fitted with a tire. The primary reference showed a similar bandsaw where the band was tightly fitted. The Federal Circuit stated that the prior art did not provide a suggestion, reason or motivation to make the modification of the reference proposed by the

Commissioner. Id. at 1398. The Court added that “there must be some logical reason apparent from the positive, concrete evidence of record which justifies a combination of primary and secondary references.” Id. quoting In re Regel, 526 F.2d 1399, 1403, 188 U.S.P.Q. 136, 139 (C.C.P.A. 1975), citing In re Stemniski, 444 F.2d 581, 170 U.S.P.Q. 343 (C.C.P.A. 1971).

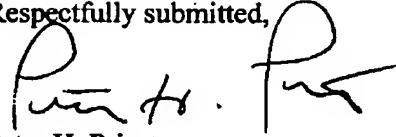
In Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 U.S.P.Q. 2d 1434 (Fed. Cir. 1988), cert. den., 109 S. Ct. 75, 102 L.Ed. 2d 51 (1988), the Federal Circuit reversed the District Court’s finding that the claims for a patent for an air flow deflecting shield were obvious. Without any suggestion in the art, the District Court improperly chose features from several prior art references to recreate the claimed invention.

The Examiner’s rejection suggests that the Examiner did not consider and appreciate the claims as a whole. The claims disclose a unique combination with many features and advantages not shown in the art. It appears that the Examiner has oversimplified the claims and then searched the prior art for the constituent parts. Even with the claims as a guide, however, the Examiner did not recreate the claimed invention.

8. Conclusion

The rejection of claims 5-7, 9-13, 23 and 24 should be reversed and the application promptly allowed.

Respectfully submitted,



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CLAIMS APPENDIX
(Claims Under Appeal)

1-4 (cancelled)

5. A method of detecting misappropriation of goods in a self-checkout lane in a store, the self-checkout lane having an incoming goods path and a goods collection zone, and goods being passed, in service, from the incoming goods path into the goods collection zone; the incoming goods path including a product scanner electrically coupled to a processor, and the goods collection zone including a weighing scale electrically coupled to the processor, the method being performed by a processor and comprising the steps:

- (a) receiving input from the product scanner identifying goods introduced into the incoming goods path;
- (b) controlling one or more barriers at least partially surrounding the goods collection zone so as to restrict customer access to goods collecting in the goods collection zone;
- (c) calculating, by referring to a database of product weights, a total weight value representative of the total weight of the goods introduced into the incoming goods path;
- (d) once all the goods being checked out by a particular customer have passed onto the weighing scale, weighing the goods collectively at the goods collection zone by the weighing scale and producing a total weight signal for all the goods;
- (e) receiving from the weighing scale the total weight signal; and
- (f) comparing the total weight value of the goods introduced into the incoming goods path with the total weight of the goods collected at the goods collection zone and calculating a discrepancy between said weights; and
- (g) if the calculated discrepancy exceeds a predetermined value, inhibiting conclusion of a transaction for purchase of goods introduced into the incoming goods path and collected in

the goods collection zone and continuing to control the one or more barriers at least partially surrounding the goods collection zone so as to restrict access until the discrepancy is resolved and the transaction is concluded.

6. The method of detecting misappropriation of goods as claimed in claim 5 further comprising:

notifying store personnel if the calculated discrepancy is greater than the predetermined value.

7. The method of claim 5 further comprising:

operating an alarm if the calculated discrepancy is greater than the predetermined value.

8. (canceled)

9. The method of claim 5 wherein the weighing scale is positioned beneath the goods collection zone.

10. The method of claim 9 wherein the goods collection zone further includes a conveyor.

11. The method of claim 9 wherein the weighing scale is shaped and sized so as to substantially fill the goods collection zone.

12. The method of claim 5 wherein the step of calculating a total weight value by referring to a record of product weights further comprises:

weighing loose grocery items in the incoming goods path.

13. The method of claim 5 further comprising:

automatically retracting the one or more barriers at least partially surrounding the goods collection zone when the calculated discrepancy is less than the predetermined value and payment for the collected goods has been made.

14-22. (canceled)

23. The method of claim 5 wherein if the calculated discrepancy is less than the predetermined value, the transaction for purchase of goods introduced into the incoming goods path is concluded; and the method further comprises controlling the one or more barriers to allow customer access to the goods collection zone to bag the goods.

24. The method of claim 23 further comprising:
operating a diverter to direct goods of a second customer to a second goods collection zone.

25. (canceled)

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.